Ab Initio Environment Set-up

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Contents

1. Introduction

This document describes the procedure and guidelines to follow to set up an Ab Initio Enterprise environment and the source control as EME or the Enterprise Meta>Environment.

1.1. SOLAR Value Measurement Framework – Applicability & Measures

	Business	Technology	Infrastructure
Agility	This asset will help in quickly setting up Ab Initio environment in a project.	15% reduction in time required to setup new Ab Initio environment	
Adaptability		This is a generic document and can be used for any Ab Initio environment setup for any business domain.	
Efficiency		The environment setup strategy is already defined so just need to create the physical environment only. So definitely reduce the entire piece of environment setup by 40-50%.	

Asset	SOLARIZATION tasks
276021465.doc	▪ Business process modelling and development guidelines involving this task to be included.

2. Intended Audience

This document is intended for use of Ab Initio Environment support team and Application support (ASG) teams working in Enterprise Meta>Environment.

3. Scope

This document puts the guidelines while installing the Ab Initio Enterprise Environment.

This document specifies at a high level:
• The prerequisites before proceeding with the installation.
• The step by step explanations of the installation procedure for the EME and the environment.
• Procedure to build the multifile system through *build-mfs* script
• Adding a new Project to an existing environment
• Creating project data directories by *project-directories*
• Data directory permissions

4. History

Issue	Date	Author	Reason for change
0.1	06/06/2003	Subhendu Mohanty	Initial Draft
0.2	02/03/2004	Subhendu Mohanty	Sections detailing installation of EME
1.0	30/01/2007	Ab Initio CoE	Transformed as the asset for CoE

5. What is Enterprise Environment?

The Ab Initio Enterprise environment is a collection of private and public projects with a single environment project. The details about private, public, environment Project and data area structure can be found in the EME overview document.

EME_Overview
v1.doc

6. Installing the EME

6.1 Pre-requisites before installation

- The AI Co>operating system Installation has the EME license
- At least 10 GB of space is available under the space where the EME instance is to be installed
- The place where EME is to be installed is not on a NFS mounted file system

6.2 Steps to install

- Please make sure you are logged in as the EME administrator id.
- Export the environment variable AB_HOME to the path where Ab Initio co-operating system has been installed and ensure that $AB_HOME/bin is included in your PATH variable.
- Change directory to the area where EME is to be installed
- Execute the create-repository command at the shell prompt which has the following syntax:
  $/some_directory>create-repository *<repository-name>*
  Generally the repository name is chosen as *store*.
- Export the variable AB_AIR_ROOT to the EME location as follows:
  $/some_directory>export AB_AIR_ROOT=/some-directory/store
- Finally, to check the installation, run the following air command to see the contents of the EME:
  $/some_directory>air ls –l
  You should see the following output: (please note the eme admin user id)
  directory /: 3 elements
   drw----r--   *<eme admin user id>*   140   directory: Projects
   drw----r--   *<eme admin user id>*   149   directory: Users
   drw----r--   *<eme admin user id>*   376   directory: abinitio

7. Prerequisites before installing the environment

- Environment variable AB_HOME is set to the path where the Ab Initio co-operating system has been installed and ensure that $AB_HOME/bin is included in your PATH variable.
- Please make sure you are logged in as the EME administrator id.
- The stdenv tar file (which contains the installation script and other utilities along with the templates to build the private and public Projects) provided by Ab Initio has been unpacked into a directory. This will create a directory called stdenv. The structure is as follows:
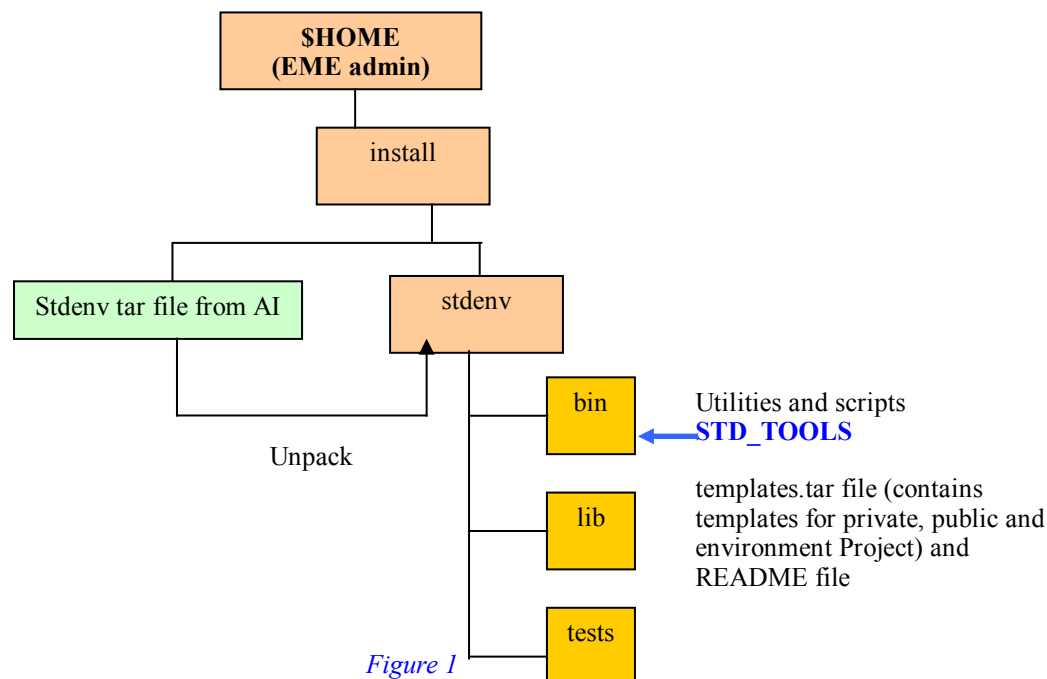
- The environment variable STD_TOOLS has been exported to point to the bin directory as shown above.
- The environment variable AB_AIR_ROOT has been unset.
- The relative locations of the Projects to be created are available. Relative location is the path to the project from the root of the source control tree, i.e. /Projects as in case of EME. A relative location may be the Project name or a path whose last part would denote the Project name. The Projects to be created must have unique names.

8. *install-environment*

The Ab Initio Enterprise environment set up and creation of Projects is carried out by a script *install-environment* which is available in $STD_TOOLS. The environment set up process includes the following activities:

- Building the EME instance
- Building the environment project (stdenv) and corresponding administrative sandbox
- Building the multifile system from the stdenv configuration (optional)
- Creating the administrative sandboxes for the Private and Public Projects
- Creating the Private and Public Projects in the EME and corresponding administrative sandboxes from the relative locations for the Projects as specified by the user
- Creating the data areas (serial, mfs (if multifile is built through the script) and admin areas) for the private and public projects

8.1 Editing the stdenv template before running install-environment

The templates.tar file in the lib directory (see figure 1) contains the template for the stdenv, private and public projects. To change the mfs configurations in the stdenv this file must be unpacked to a temporary location, the required updates be done and then again repacked to the same location as it was before. The *install-environment* script allows editing the default templates (unpacking to a temporary location) or else they can be modified using following command:

Unpacking the template:

$STD_TOOLS/create-package -unpack -file *<path to templates.tar file>* -temp *<temp location>*

Where *<path to templates.tar file>* can be $HOME/install/stdenv/lib/templates.tar as in <u>figure 1</u>
<temp location> points to a directory (e.g. /tmp/templates) where the templates can be stored temporarily. A subdirectory in this directory is created for each template type available i.e. Private, Public and stdenv.

Editing the stdenv template:

- Open the stdenv project parameter from GDE by Project>Edit Sandbox>Parameters
- Change the value of the parameter AI_MFS_DEPTH to the required value (the depth of the mfs you want to build)
- Save the parameters and close the editor

Repacking the templates:

Finally use the following command to repack the templates:

$STD_TOOLS/create-package -pack -file *<path to templates.tar file>* -temp *<temp location>*

9.   Multifile system creation

The complete environment set up includes building the multifile system. This can be done through the *install-environment* script or can be done separately after the environment set up through the *build-mfs* script .

- *Building mfs through the install-environment utility:*
  By default *install-environment* builds 10-way multifile system. If the requirement is otherwise, before the script is actually run, the template for stdenv Project needs to be updated reflecting the mfs configuration that the script would use. See <u>section 8.1</u> for details.
- *Building mfs separately through build-mfs utility:*
  When the *install-environment* script asks to build a mfs, bypass it and build the mfs separately. In this case the stdenv project parameters after creation needs to be updated reflecting the mfs configuration that the script would use. In this case after building the mfs, the project data directories for multifile system need to be created separately through another script *project-directories*, as they wouldn't have been created by the *install-environment* script.
  See section for details on *build-mfs*.
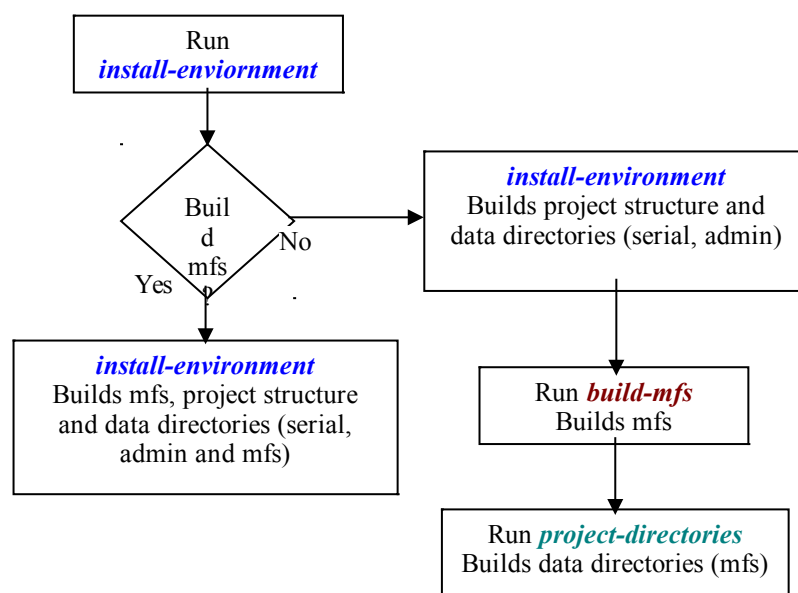 Following flowchart explains the multifile creation scenario:

Figure 2

10. Sample run of *install-environment*

Following gives a detailed account of the installation procedure through a sample execution of the *install-environment* utility. The script creates one public project *public1* and one private project *private1*.

User responses have been marked in blue and corresponding explanations are marked in red wherever needed. The whole process is self-explanatory.

$>$STD_TOOLS/*install-environment*

Checking your Ab Initio installation...Done
Installing the Ab Initio Standard Environment

What level of environment would you like to install
(B)asic, (S)tandard, or (E)nterprise (Help ?) : E

You are currently logged is as
User   : admineme
Group   : asg
Default admin directory permissions : 2750
Default data directory permissions : 2750

Are these the correct values for the Ab Initio Administrator?
(Y)(Help ?) : y

Where would you like to locate your public (shared) sandboxes and private sandboxes owned by the administrator?
(/home/admineme)(Help ?) : /home/admineme/test

Ab Initio strongly recommends that each mount point contain 'abinitio' in the path.
Do you want to extend the path to include the abinitio directory?
(N)(Help ?) : n
The directory: /home/admineme/test does not exist
Do you want to create this directory?
(Y)(Help ?) : y
info : Creating directory /home/admineme/test
Where would you like your base data mount?
(/home/admineme/test)(Help ?) : /home/admineme/test
(This is the base for the data area, under which the serial, admin and multi directories would be placed)
Ab Initio strongly recommends that each mount point contain 'abinitio' in the path.
Do you want to extend the path to include the abinitio directory?
(N)(Help ?) : n
info : Porting templates to version 211

Would you like to edit the default templates?
(N)(Help ?) : n
(Instead of editing the templates using create-package as described in section 8.1, this option can be used to unpack the templates to a temporary area and then edit the multifile configurations if needed in the stdenv project parameters.)
How would you like to identify your environment?
(Help ?) : test_appln
(This would be appended to the Project root in EME, i.e. /Projects/test_appln and to the data mount as well, i.e. /home/admineme/test/data/test_appln)
What system would you like to use for version control
(E)ME, (S)CCS, or (N)one (Help ?) : E
Where is your EME data store located?
()(Help ?) : /home/admineme/test/eme/store
(This indicates where the EME datastore would be located. In above case it would be located in /home/admineme/test/eme. The last part of the path ,i.e. store in above case refers to the name of the datastore files that would be created.)
The directory /home/admineme/test/eme does not exist.
Would you like to try to create it now?
(Y)(Help ?) : y

info : Creating directory /home/admineme/test/eme
No EME data store appears to be available with AB_AIR_ROOT = /home/admineme/test/eme/store
Would you like to try to create one now?
(Y)(Help ?) : y
info : Creating EME data store /home/admineme/test/eme/store
Creating repository /home/admineme/test/eme/store.

Adding default permissions...
Repositing built-in objects...
  Adding web interface support...
    Adding scripts...
  Adding reports...
  Adding examples...
  Adding user and project directories...
Repositing...
  Adding reports for
    directories
    projects
    graphs
    variables
    datasets
    dtm jobs
  Adding reporters

Repository /home/admineme/test/eme/store created.
Where would you like to locate your environment within the EME?
(/Projects/test_appln)(Help ?) : /Projects/test_appln
(This would be the root for the Projects inside the repository.)
Checking path in EME
The EME path does not exist and will be created
info : Creating directory /home/admineme/test/sand
info : Creating directory /home/admineme/test/private_sand
info : Creating directory /home/admineme/test/sand/stdenv
info : Creating directory /home/admineme/test/data
EME used for version control.
Creating environment project stdenv and sandbox /home/admineme/test/sand/stdenv
info : Restricting the usage of support script s to the administrator
info : Regenerating project parameter setup code
info : Checking standard environment sandbox into the EME.
    19768 .air-project-parameters   text/x-abinitio-parameters Add to Repository
       1 .project-end.ksh   text/x-shell.ksh   Add to Repository
    17497 .project-start.ksh   text/x-shell.ksh   Add to Repository
        0 db   directory   Add to Repository
        0 dml   directory   Add to Repository
        0 lib   directory   Add to Repository
        0 mp   directory   Add to Repository
        0 run   directory   Add to Repository
     2480 run/compound_mf_input_macro.ksh text/x-shell.ksh   Add to Repository
     3356 run/compound_mf_output_macro.ksh text/x-shell.ksh   Add to Repository
     2187 run/eme_graph_review.ksh   text/x-shell.ksh   Add to Repository
        0 sql   directory   Add to Repository
        0 tools   directory   Add to Repository
     7391 tools/migrate_projects.ksh   text/x-shell.ksh   Add to Repository
      214 tools/test.ksh   text/x-shell.ksh   Add to Repository
     1043 tools/user_functions.ksh   text/x-shell.ksh   Add to Repository
        0 xfr   directory   Add to Repository
    53937 Bytes imported
   153600 lib/templates.tar   application/x-tar   Add to Repository
   153600 Bytes imported
       42 .project_names   text/plain   Add to Repository
       42 Bytes imported
    73073 tools/ais   text/plain   Add to Repository
    73073 Bytes imported

```
    34565 tools/analyze-graph   text/plain   Add to Repository
    34565 Bytes imported
       71 tools/analyze-graph.file   text/plain   Add to Repository
       71 Bytes imported
       73 tools/analyze-graph.mfile   text/plain   Add to Repository
       73 Bytes imported
       21 tools/analyze-graph.sed   text/plain   Add to Repository
       21 Bytes imported
       60 tools/analyze-graph.unknown   text/plain   Add to Repository
       60 Bytes imported
     9712 tools/build-mfs   text/plain   Add to Repository
     9712 Bytes imported
     8958 tools/build-mfs.orig   text/plain   Add to Repository
     8958 Bytes imported
     2086 tools/common-constants   text/plain   Add to Repository
     2086 Bytes imported
    47260 tools/common-functions   text/plain   Add to Repository
    47260 Bytes imported
    46368 tools/common-functions.orig   text/plain   Add to Repository
    46368 Bytes imported
     1888 tools/create-package   text/plain   Add to Repository
     1888 Bytes imported
    14517 tools/create-project   text/plain   Add to Repository
    14517 Bytes imported
    12578 tools/create-stdenv   text/plain   Add to Repository
    12578 Bytes imported
      566 tools/dirstack   text/plain   Add to Repository
      566 Bytes imported
    28783 tools/install-environment   text/plain   Add to Repository
    28783 Bytes imported
    28783 tools/install-environment.old   text/plain   Add to Repository
    28783 Bytes imported
     1803 tools/install-port-to   text/plain   Add to Repository
     1803 Bytes imported
     7391 tools/migrate_projects.ksh   text/plain   Update Repository Type
     7391 Bytes imported
    11091 tools/project-directories   text/plain   Add to Repository
    11091 Bytes imported
     8499 tools/promo-export   text/plain   Add to Repository
     8499 Bytes imported
     9961 tools/promo-import   text/plain   Add to Repository
     9961 Bytes imported
     1098 tools/reformat-air   text/plain   Add to Repository
     1098 Bytes imported
      940 tools/reformat-air.orig   text/plain   Add to Repository
      940 Bytes imported
      321 tools/show_mfs_conf   text/plain   Add to Repository
      321 Bytes imported
    26030 tools/sourcecontrol   text/plain   Add to Repository
    26030 Bytes imported
     1012 tools/stdenv_install_8122   text/plain   Add to Repository
     1012 Bytes imported
      166 tools/temp   text/plain   Add to Repository
      166 Bytes imported
      214 tools/test.ksh   text/plain   Update Repository Type
      214 Bytes imported
     1043 tools/user_functions.ksh   text/plain   Update Repository Type
     1043 Bytes imported
     1036 tools/version   text/plain   Add to Repository
     1036 Bytes imported
done.
Would you like to build a multifile system?
(Y)(Help ?) : y
```

(This can be bypassed by giving n, in which case the multifile system has to be built after the environment set up using *build-mfs* utility. See section 10 for *build-mfs*)
Building multifile system (MFS) based on Environment Project Configuration.
Configuration is as follows:

Directory containing MFS   : /home/admineme/test/data/test_appln/mfs
Number of Data Partitions : 10
MFS Name   : mfs_10way
MFS Root directory   : /home/admineme/test/data/test_appln/mfs/mfs_10way
Would you like to continue with this setup? y
How many data areas would you like to use?
(1)(Help ?) : 1
Please provide the location of data area number 0
()(Help ?) : /home/admineme/test/data/test_appln/abinitio
(This is the area under which the actual data partitions would be built)
The directory: /home/admineme/test/data/test_appln/abinitio does not exist
Do you want to create this directory?
(Y)(Help ?) : y
info : Creating directory /home/admineme/test/data/test_appln/abinitio
info : Building multifile system based on mfs_10way_spec_file.txt
info : Creating directory /home/admineme/test/data/test_appln/mfs
info : Creating directory /home/admineme/test/data/test_appln/mfs/parts
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_001
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_002
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_003
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_004
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_005
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_006
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_007
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_008
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_009
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_10way_010
Done
Would you like to create any public projects?
(Y)(Help ?) : y

What would you like to use for the relative location of the project?
()(Help ?) : public1
(A relative location may be the Project name or a path whose
 last part would denote the Project name)
Would you like to create project data directories?
(Y)(Help ?) : y

Would you like to check in this project into source control?
(Y)(Help ?) : y

Creating a public project.
info : Creating public project public1 and sandbox /home/admineme/test/sand/public1
info : Regenerating project parameter setup code
info : Invoking project /home/admineme/test/sand/public1
info : Creating serial and multi directories
info : Checking for directories in Sandbox /home/admineme/test/sand/public1
info : Creating directory /home/admineme/test/data/test_appln/serial
info : Creating directory /home/admineme/test/data/test_appln/serial/public1
info : Creating directory /home/admineme/test/data/test_appln/source_data
info : Creating directory /home/admineme/test/data/test_appln/source_data/public1
info : Creating directory /home/admineme/test/data/test_appln/output_data
info : Creating directory /home/admineme/test/data/test_appln/output_data/public1
info : Creating directory /home/admineme/test/data/test_appln/serial/public1/main
info : Creating directory /home/admineme/test/data/test_appln/serial/public1/pending
info : Creating directory /home/admineme/test/data/test_appln/serial/public1/temp
info : Creating directory /home/admineme/test/data/test_appln/serial/public1/lookup
info : Creating directory /home/admineme/test/data/test_appln/serial/public1/reject

info : Creating directory /home/admineme/test/data/test_appln/serial/public1/hold
info : Creating directory /home/admineme/test/data/test_appln/admin/public1
info : Creating directory /home/admineme/test/data/test_appln/admin/public1/log
info : Creating directory /home/admineme/test/data/test_appln/admin/public1/error
info : Creating directory /home/admineme/test/data/test_appln/admin/public1/summary
info : Creating directory /home/admineme/test/data/test_appln/admin/public1/reports
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/public1
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/public1/main
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/public1/pending
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/public1/temp
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/public1/lookup
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/public1/reject
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/public1/hold
info : Checking in project /Projects/test_appln/public1 into the EME
    12018 .air-project-parameters   text/x-abinitio-parameters   Add to Repository
        0 .project-end.ksh   text/x-shell.ksh   Add to Repository
        1 .project-start.ksh   text/x-shell.ksh   Add to Repository
        0 bin   directory   Add to Repository
        0 db   directory   Add to Repository
        0 dml   directory   Add to Repository
        0 mp   directory   Add to Repository
        0 run   directory   Add to Repository
        0 sql   directory   Add to Repository
        0 xfr   directory   Add to Repository
    12019 Bytes imported
       85 .project_names   text/plain   Update Repository
          .project_names   text/plain   Unlock
       85 Bytes imported
done.
Would you like to create any more public projects?
(N)(Help ?) : n
Would you like to create any private projects now?
(Y)(Help ?) : y

What would you like to use for the relative location of the project?
()(Help ?) : private1

Would you like to create project data directories?
(Y)(Help ?) : y

Would you like to check in this project into source control?
(Y)(Help ?) : y

Creating a private project.
info : Creating private project private1 and sandbox /home/admineme/test/private_sand/private1
info : Regenerating project parameter setup code
info : Invoking project /home/admineme/test/private_sand/private1
info : Creating serial and multi directories
info : Checking for directories in Sandbox /home/admineme/test/private_sand/private1
info : Checking for directories in Sandbox /home/admineme/test/sand/stdenv
info : Creating directory /home/admineme/test/data/test_appln/admin/private1
info : Creating directory /home/admineme/test/data/test_appln/serial/private1
info : Creating directory /home/admineme/test/data/test_appln/source_data/private1
info : Creating directory /home/admineme/test/data/test_appln/output_data/private1
info : Creating directory /home/admineme/test/data/test_appln/serial/private1/main
info : Creating directory /home/admineme/test/data/test_appln/serial/private1/pending
info : Creating directory /home/admineme/test/data/test_appln/serial/private1/temp
info : Creating directory /home/admineme/test/data/test_appln/serial/private1/lookup
info : Creating directory /home/admineme/test/data/test_appln/serial/private1/reject
info : Creating directory /home/admineme/test/data/test_appln/serial/private1/hold
info : Creating directory /home/admineme/test/data/test_appln/admin/private1/log
info : Creating directory /home/admineme/test/data/test_appln/admin/private1/error
info : Creating directory /home/admineme/test/data/test_appln/admin/private1/summary

info : Creating directory /home/admineme/test/data/test_appln/admin/private1/reports
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/private1
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/private1/main
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/private1/pending
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/private1/temp
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/private1/lookup
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/private1/reject
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_10way/private1/hold
info : Checking in project /Projects/test_appln/private1 into the EME
   2567 .air-project-parameters   text/x-abinitio-parameters   Add to Repository
    86 .project-end.ksh   text/x-shell.ksh   Add to Repository
    16 .project-start.ksh   text/x-shell.ksh   Add to Repository
     0 bin   directory   Add to Repository
     0 db   directory   Add to Repository
     0 dml   directory   Add to Repository
     0 mp   directory   Add to Repository
     0 run   directory   Add to Repository
     0 sql   directory   Add to Repository
     0 xfr   directory   Add to Repository
  2669 Bytes imported
   138 .project_names   text/plain   Update Repository
     .project_names   text/plain   Unlock
   138 Bytes imported
done.
Would you like to create any more private projects?
(N)(Help ?) : n

The installation of your environment is now complete.

To rerun this install use:
install-environment -file stdenv_install_6002

This completes the enterprise environment set up along with creation of the multifile system.

11. *build-mfs*

In case you have bypassed the multifile creation option in the *install-environment* script, it can be built separately by *build-mfs* utility. Before using this, the multifile depth must be updated (AI_MFS_DEPTH) in the stdenv public sandbox which would already have been created as a part of the *install-environment* run.
After this updation in stdenv, make sure to check in stdenv to the EME data store to reflect the changes in the current version of stdenv in EME.

build-mfs has the following syntax:

Usage: *build-mfs* <switches>
<switches>:
  -env <stdenv location> Build multifile system using parameters in stdenv sandbox
  -data   Absolute path to data area to use (multiple -data switches may be used)
  -file <file>   Build multifile system using file specification
  -template <file>   Generate a template file as used by -file option
  -debug   Print debug information about build

A sample run of *build-mfs* (using stdenv information to create mfs) is shown below:

**$>**$STD_TOOLS/*build-mfs* -env /home/admineme/test/sand/stdenv -data /home/admineme/test/data/test_appln/abinitio

info : Building multifile system based on mfs_2way_spec_file.txt
info : Creating directory /home/admineme/test/data/test_appln/mfs
info : Creating directory /home/admineme/test/data/test_appln/mfs/parts

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info : Creating directory /home/admineme/test/data/test_appln/abinitio
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_2way_001
info : Creating directory /home/admineme/test/data/test_appln/abinitio/mfs_2way_002
Done
```

12. *create-project*

This script is used to create a new project in an existing environment, which has been created using *install-environment*.

create-project has the following syntax:

```
Usage: create-project [options]
    -type <type>
    -version_system <version system> (E, S, or N)
    -eme_root <root in EME to checkin to>
    -rel_loc <relative location of project>
    -env <stdenv location>
    -name <project name>
    -create_dirs <Y|N>
    -checkin <Y|N>
    -comment <sccs comment> (must be last switch on line)
```

A sample run is shown below:

**$>**$STD_TOOLS/*create-project* -type private

Creating a private project.

Where is your environment sandbox located?
(NoDefault): /home/admineme/test/sand/stdenv

What would you like to use for the relative location of the project?
()(Help ?) : private3

Would you like to create project data directories?
(Y)(Help ?) : y
info : Creating private project private3 and sandbox /home/admineme/test/private_sand/private3
info : Regenerating project parameter setup code
info : Invoking project /home/admineme/test/private_sand/private3

Would you like to check in this project into source control?
(Y)(Help ?) : y
info : Checking in project /Projects/test_appln/private3 into the EME
    2567 .air-project-parameters   text/x-abinitio-parameters   Add to Repository
      86 .project-end.ksh   text/x-shell.ksh   Add to Repository
      16 .project-start.ksh   text/x-shell.ksh   Add to Repository
       0 bin   directory   Add to Repository
       0 db   directory   Add to Repository
       0 dml   directory   Add to Repository
       0 mp   directory   Add to Repository
       0 run   directory   Add to Repository
       0 sql   directory   Add to Repository
       0 xfr   directory   Add to Repository
    2669 Bytes imported
     244 .project_names   text/plain   Update Repository
         .project_names   text/plain   Unlock
     244 Bytes imported
done.
```

## 13. *project-directories*

*project-directories* is an utility used to create the data directories (serial, admin and mfs) for the projects that have been created using *create-project* or if the multifile system was built using *build-mfs* script.

The *install-environment* script creates the projects and their data directories where as if we use *create-project* to add new projects to an existing environment, *project-directories* must be run to create the serial, multifile and admin data directories. If the multifile system is not built as a part of *install-environment* script and is built later by *build-mfs*, the mfs directories wouldn't be created as a part of the *install-environment*.

To test the existence of data directories for all the projects in the environment:

$>$STD_TOOLS/*project-directories* –test  –env *<path to stdenv sandbox>*

When the –test switch in above command is changed to –create, data directories are created for the projects that have been added to the environment by *create-project* utility. This also creates the multi directories for the projects if the multifile system is built by *build-mfs*.

$>$STD_TOOLS/*project-directories* –create  –env *<path to stdenv sandbox>*

A sample run of *project-directories* is shown as below:

$>$STD_TOOLS/*project-directories* -create -env /home/admineme/test/sand/stdenv

Executing create in environment /home/admineme/test/sand/stdenv

Executing create in project /home/admineme/test/sand/public1
info : Checking for directories in Sandbox /home/admineme/test/sand/public1
(Project directories for public1 project have been built)
Executing create in project /home/admineme/test/private_sand/private1
info : Checking for directories in Sandbox /home/admineme/test/private_sand/private1
info : Checking for directories in Sandbox /home/admineme/test/sand/stdenv
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private1
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private1/main
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private1/pending
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private1/temp
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private1/lookup
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private1/reject
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private1/hold
(mfs directories only for private1 project, serial and admin directories are already in place)
Executing create in project /home/admineme/test/private_sand/private2
info : Checking for directories in Sandbox /home/admineme/test/private_sand/private2
info : Checking for directories in Sandbox /home/admineme/test/sand/stdenv
info : Creating directory /home/admineme/test/data/test_appln/admin/private2
info : Creating directory /home/admineme/test/data/test_appln/serial/private2
info : Creating directory /home/admineme/test/data/test_appln/source_data/private2
info : Creating directory /home/admineme/test/data/test_appln/output_data/private2
info : Creating directory /home/admineme/test/data/test_appln/serial/private2/main
info : Creating directory /home/admineme/test/data/test_appln/serial/private2/pending
info : Creating directory /home/admineme/test/data/test_appln/serial/private2/temp
info : Creating directory /home/admineme/test/data/test_appln/serial/private2/lookup
info : Creating directory /home/admineme/test/data/test_appln/serial/private2/reject
info : Creating directory /home/admineme/test/data/test_appln/serial/private2/hold
info : Creating directory /home/admineme/test/data/test_appln/admin/private2/log
info : Creating directory /home/admineme/test/data/test_appln/admin/private2/error
info : Creating directory /home/admineme/test/data/test_appln/admin/private2/summary
info : Creating directory /home/admineme/test/data/test_appln/admin/private2/reports
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private2
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private2/main
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private2/pending
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private2/temp
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private2/lookup

info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private2/reject
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private2/hold

Executing create in project /home/admineme/test/private_sand/private3
info : Checking for directories in Sandbox /home/admineme/test/private_sand/private3
info : Checking for directories in Sandbox /home/admineme/test/sand/stdenv
info : Creating directory /home/admineme/test/data/test_appln/admin/private3
info : Creating directory /home/admineme/test/data/test_appln/serial/private3
info : Creating directory /home/admineme/test/data/test_appln/source_data/private3
info : Creating directory /home/admineme/test/data/test_appln/output_data/private3
info : Creating directory /home/admineme/test/data/test_appln/serial/private3/main
info : Creating directory /home/admineme/test/data/test_appln/serial/private3/pending
info : Creating directory /home/admineme/test/data/test_appln/serial/private3/temp
info : Creating directory /home/admineme/test/data/test_appln/serial/private3/lookup
info : Creating directory /home/admineme/test/data/test_appln/serial/private3/reject
info : Creating directory /home/admineme/test/data/test_appln/serial/private3/hold
info : Creating directory /home/admineme/test/data/test_appln/admin/private3/log
info : Creating directory /home/admineme/test/data/test_appln/admin/private3/error
info : Creating directory /home/admineme/test/data/test_appln/admin/private3/summary
info : Creating directory /home/admineme/test/data/test_appln/admin/private3/reports
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private3
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private3/main
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private3/pending
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private3/temp
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private3/lookup
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private3/reject
info : Creating directory /home/admineme/test/data/test_appln/mfs/mfs_2way/private3/hold

## 14. Permissions

The default data directory permissions are placed in a script **common-constants** in $STD_TOOLS. This can be changed to match requirement in the stdenv template before running *install-environment*. Currently, *install-environment* doesn't apply the default data directory permissions to the project data directories. This can be overcome in two ways:
- Change the permissions manually for the data directories
- Bypass *install-environment* option during project creation to create the data directories. Run *project-directories* after environment set up, which would create the data directories with the default data directory permissions as specified in common-constants in $STD_TOOLS.

### 14.1 Data Directory Permissions

The default data directory permissions are placed in a file common-constants in $STD_TOOLS. This can be changed to match the requirement. With the current way of set-up all Data directories are created with a permission of 2750. Permissions on the innermost directory have to changed to give write access to groups, so that users can write data.

Change the permissions manually for the data directories. Now a script called **change-perm-dev.ksh** is available which will take care of everything. **This is present under /bipabinit/tools/environment directory in hwduha01.**

Ideally, the default data directory permissions should be 2750 and in the lowest level of directories the permission should be 2770.

A sample run of *change-perm-dev.ksh* is shown as below:

$> change-perm-dev.ksh

Please enter the environment sandbox path > /appl/soedw/d/sand/soedw_stdenv

Please give project name >soedw_schema

This will change the permissions for all the lower level directories under that project (soedw_schema) under any of the data directories to 2770. This could be repeated for all other projects individually.

### *14.2 EME Directory permissions*

We need to ensure that user access to specific projects is restricted, like stdenv project. Also we need to ensure that users can write at the innermost directory of a project structure, like dml,xfr…etc

The following commands should be executed as EME admin user id to set the above access permissions within EME.

air chmod -R -077 /Projects/<application name>
air chmod +004 /Projects/<application name>
air chmod -R +004 /Projects/<application name>/<stdenv project>
air chmod -R +006 /Projects/<application name>/<project path>

e.g.

$> air chmod -R -077 /Projects/soedw
$> air chmod +004 /Projects/soedw
$> air chmod -R +004 /Projects/soedw/soedw_stdenv
$> air chmod -R +006 /Projects/soedw/soedw_schema

The last command should be executed for all projects, both private and public projects except standard environment.